Abstract

A methodology and apparatus is described that incorporates the use of thermal infrared imaging into a complete end-to-end face recognition system. Since thermal infrared primarily images emissive phenomenology there are advantages over video imaging in the reflective domain (e.g., visible, near-infrared) for face recognition, particularly with respect to image invariance in the presence of varying illumination incident on the subject. On the other hand video cameras in the reflective domain provide important image detail not apparent in thermal infrared imagery. Fusion of thermal infrared imagery with reflective domain (e.g., visible, near-infrared) imagery provides even further advantages. Embodiments of such systems that incorporate thermal infrared imaging for automatic face recognition are important for access control, verification, identification, and surveillance and monitoring.